

[Scan Chain Diagnostics Using Logic Paths]

Abstract

A structure and method for performing scan chain diagnosis. The structure comprises a diagnosed/target scan chain and one or more good observation scan chains. Observing logic paths from the target scan chain to observation scan chains can be identified according to a pre-specified criterion. The diagnosed scan chain is loaded in series with a test pattern. Then, the contents of the observed latch(es) in the diagnosed scan chain propagate through the observing logic paths. Then, the output signals of the observing logic paths are strobed into the observing latch(es) in the observing scan chain(s). Then, the observing scan chain(s) are unloaded and the contents of the observing latch(es) are collected and analyzed to determine the defect types and the defect ranges in the diagnosed scan chain.